Is Hampton Roads a Cul-de-Sac... or a GATEWAY?

Prepared by Robert Case, PE, PhD and Keith Nichols, PE
Presented to CAC by Robert Case, PE, PhD
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Gateways

• Improvements have been proposed for many of the corridors that provide access to and from Hampton Roads.

• Because of the importance of these gateways to the vitality of Hampton Roads, HRTPO is preparing a study to compare proposed improvements for these gateways.
Overview of Today’s Presentation

I. Need for Improvements
   A. Vehicle volumes
   B. Truck volumes

II. Candidate Projects- Bang-for-the-Buck
   A. Project Description
   B. Project Impacts
      1. Trips to Hampton Roads
      2. Trucking to Hampton Roads
      3. Hurricane Evacuation
Vehicles by Gateway

**Annual Average Daily Traffic (AADT) Volumes at Regional Gateways, 2019**

- **I-64 Gateway**: 71,666
- **168**: 27,193
- **58**: 22,257
- **NC 17**: 14,337
- **CBBT 13**: 11,185
- **460**: 11,033
- **GLO 17**: 11,000

Data source: HRTPO analysis of VDOT and CBBT data.
2011 & 2019
TWO-WAY AVERAGE ANNUAL
DAILY TRAFFIC VOLUMES
SELECTED HAMPTON ROADS
REGIONAL GATEWAYS

Prepared by HRTPO Staff
Data source: HRTPO analysis of VDOT and CBBT data.
Vehicle Split By Gateway

SHARE OF AADT VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019

Data source: HRPO analysis of VDOT and CBBT data.
Vehicles By Season and Day of Week

VOLUMES BY SEASON AND DAY OF WEEK AT REGIONAL GATEWAYS, 2019

Data source: HRTPO analysis of VDOT and CBBT data. Daily data not available on Route 17 at the Gloucester County gateway.
## Weekday Truck Volumes at Regional Gateways, 2019

Data source: HRTPO analysis of VDOT and CBBT data.

<table>
<thead>
<tr>
<th>Gateway</th>
<th>Average Weekday Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>6,879</td>
</tr>
<tr>
<td>58</td>
<td>4,550</td>
</tr>
<tr>
<td>460</td>
<td>2,499</td>
</tr>
<tr>
<td>CBBT 13</td>
<td>1,284</td>
</tr>
<tr>
<td>NC 17</td>
<td>1,024</td>
</tr>
<tr>
<td>168</td>
<td>856</td>
</tr>
<tr>
<td>GLO 17</td>
<td>298</td>
</tr>
</tbody>
</table>
Trucks

AVERAGE 2011 & 2019 WEEKDAY TWO-WAY TRUCK VOLUMES
SELECTED HAMPTON ROADS REGIONAL GATEWAYS

Prepared by HRTPO Staff.
Truck Split By Gateway

**SHARE OF WEEKDAY TRUCK VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019**

Data source: HRTPO analysis of VDOT and CBBT data.
II. Candidate Projects - Bang-for-the-Buck

Candidate Gateway Projects

• Two projects on US 58
• Two projects on US 17
• One project on I-64
US 58- Existing traffic signals
US 58 “Mostly Limited Access” (MLA)

Legend
• Blue: already fully-controlled access
• Purple: to be upgraded to fully-controlled access
• Black: to remain signalized

- Travel Time Improvement
  - For trips accessing I-95
    
    5 minutes*

*vs. current travel time; source: 2019 VDOT study, p. 22; total savings less 1 minute (Greensville WCL to Ruritan Dr)
I-58 (upgrade to Interstate)

- **Travel Time Improvement**
  - For trips accessing I-95
  - 12 minutes*

*vs. current travel time; source: 2019 VDOT study, p. 22; total savings less 1 minute (Greensville WCL to Ruritan Dr)
Legend

- **Blue**: already fully-controlled access
- **Purple**: not fully-controlled access

**I-87 (VA)**

**Existing Conditions**

**Work: upgrade to Interstate**

**Travel Time Improvement**

- 2 minutes
I-87 (NC)

Legend
• **Blue**: already fully-controlled access
• **Purple**: not fully-controlled access

Existing Conditions

Work: upgrade to Interstate

Travel Time Improvement
• **14 minutes**

*Note that NC competes with VA for federal funds.*
I-64 Gap

- **Termini:** MM205 to MM234 (29 miles)
- **Work:** Widening to 3 lanes in each direction
- **Time Improvement:** 2 minutes*

*assuming elimination of travel time variance*
B. Impact of Candidate Projects

1. **Trips** between Hampton Roads and external areas
2. **Trucking** between Hampton Roads and external areas
3. Hurricane **Evacuation**
1. Trips between HR and External Areas

Note: “Trips” are for any reason—business trips, family visits, vacations, etc.

Existing Trips to Hampton Roads per day, 2019

Source: HRTP via StreetLight
Additional Trips - 58 MLA

Legend
- metros_micros
- addl_trips_US58 MLA
  - 1
  - 5
  - 10
  - 50
  - 100
Additional Trips- I-87 (VA)
Additional Trips - I-64 Gap
Additional Trips and Costs
Cost per Additional Trip to HR

(lower is better)
2. Trucking to/from Hampton Roads

Existing Trucking to/from Hampton Roads, per year, 2017, k-tons
Cost per Additional Ton Trucked to/from HR

(lower is better)
3. Impact of Projects on Evacuation

- ✔️ ✔️ Capacity Improving Projects on an Evacuation Route
  - I-58
  - I-64 Gap

- ✔️ ✔️ Travel-time Improving Projects on an Evacuation Route
  - US 58 MLA

- ✔️ ✔️ Projects NOT on an Evacuation Route
  - I-87
Study Overview

• Vision for the Study: Strategic and Systematic Analysis

• Presented Today
  • Volumes
  • Candidate Projects
    • Scope
    • Bang-for-the-Buck

• Future Work
  • Safety
  • Forecasted Volumes and Congestion
  • Quality of Life
  • Community Impacts
  • Economic Development Opportunities